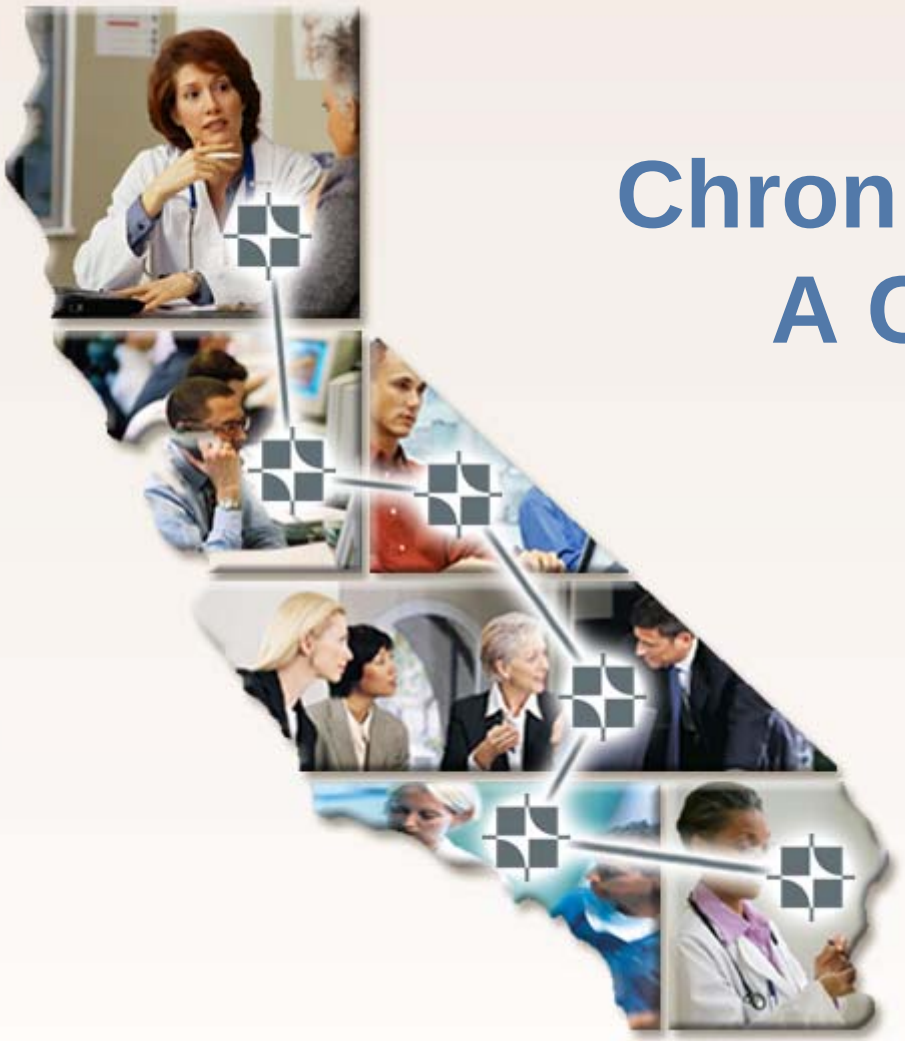

Chronic Disease in CA – A CalRHIO Vision

Ron Jimenez, MD, FAAP

Board of Directors. CalRHIO

Associate Medical Director, Clinical Informatics, SCVHHS

May 3, 2007

The Old Paradigm

- Isolated silos of legacy system data behind enterprise walls reported to the clinician on paper
- Point of clinical data aggregation:

  The physician's desk!

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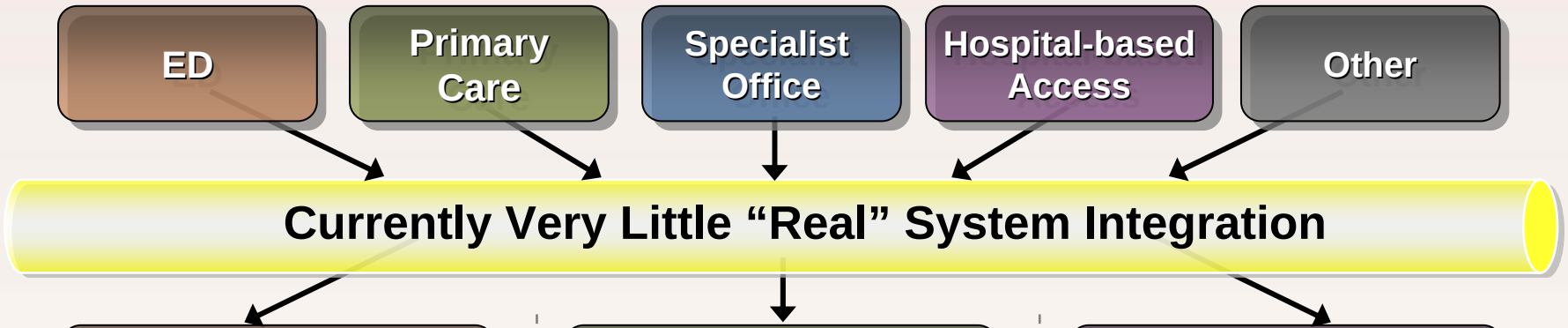
Current Environment: Poor Access to Delivery System Data



Administration Costs

- Electronic vs. Manual Transaction
- Rework
- Referral Costs
- Adjudication
- Fraud/Abuse/Upcoding
- Liability
- Cash flow/AR

Quality Outcome Indexing

- Referral Costs
- Public Image Enhancement
- Network Access
- Market Leverage

Medical Costs (Rx, Lab, Radiology)

- Fraud/Abuse/Upcoding
- Liability
- Utilization

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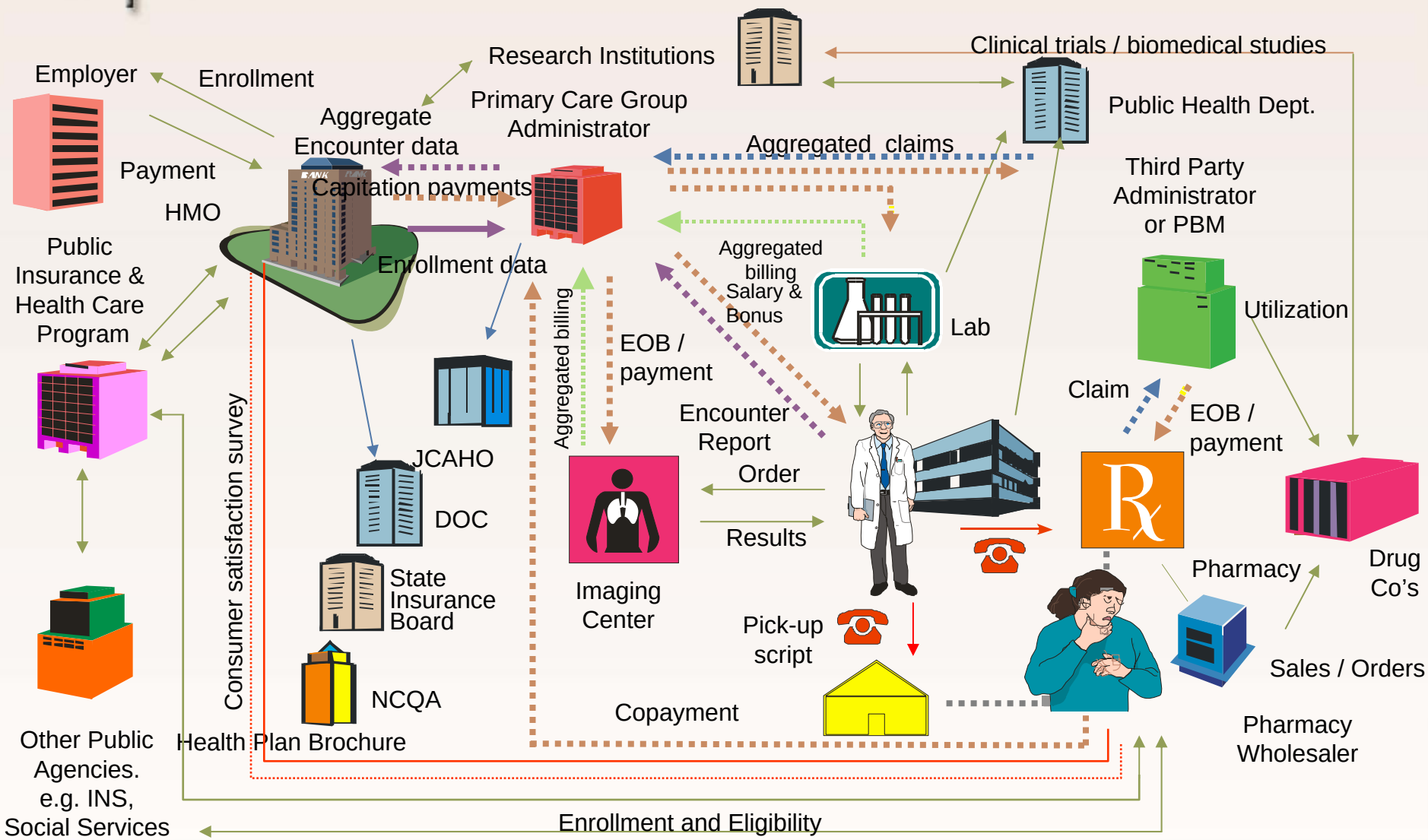
Data Flow



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Without Access to Electronic Health Information

- *30% of the time,* physicians can't find information previously recorded in a paper chart
- *50% of the time,* patients agree to duplicate testing ($$$)
- *1 in 7 admissions to a hospital and 1 of 5 lab tests and radiology exams* are the result of being unable to retrieve information
- On average, test results come from *5 or more locations,* delivered via mail, fax, e-mail, messenger, telephone

*Electronic Medical Records – Getting it Right and Going to Scale. W. Edward Hammond III, Ph.D. Commonwealth Fund background paper. www.cmwf.org publication #695. January 2004.

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Clinical Information is Missing in 13.6% of Primary Care Visits*

- Lab results 6.1%
- Dictation 5.4%
- Radiology results 3.8%
- H&P 3.7%
- Medications 3.2%
- Missing information:
  - Judged to adversely affect patient care 44% of time
  - Delayed care of services 59.5% of time

* JAMA, February 2005

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The New Paradigm

- Electronically aggregated clinical information…….
  - ***Available anywhere, anytime!***

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The Governor's Executive Order: Health IT Vision and Mission for California

Vision

- Achieve 100% electronic health data exchange among payers, providers, consumers, researchers, and government agencies in the next 10 years

Mission

- Provide appropriate personal health information to Californians, available in a timely and secure fashion
- Enable affordable, safe and accessible health care

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Why Does the State Care About Health IT?

- The State finances coverage for 1 in 5 Californians and directs the expenditure of over $36 B in health-related spending
- The State spends another $3 B on the health care of its employees and retirees

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California Health Care Statistics

- Population: 37 M
- California health care expenditure: $192 B/year
- Cost per person: $6.5 K/year
- Number of physicians: 98,000
- Number of primary care physicians: 39,000
- Number of licensed EDs (EMS facilities): 420

Collaborative Care Network estimated to save 5% or $9 B/year

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Annual National Benefit of HIE
(Assumes 10% of National Benefit for CA)

$ 31B: Savings for information exchange between outpatient providers and laboratories ($3.1B)

$ 26B: Outpatient providers and radiology centers ($2.6B)

$ 3B: Outpatient providers and pharmacies ($270M)

$ 13B: Provider to provider ($1.3B)

$195M: Provider to Public Health Departments ($19M)

$ 20B: Provider to payers ($2B)

TOTAL Benefit for CA = $9B Savings Annually

Source: CITL Center for Information Technology Leadership

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CalRHIO The Vision

- My own **personal health record:**
- All the information needed to take care of me is available on the spot and **within seconds.**
- **My doctor knows** if I've been to another doctor, hospital, and what medicines I take.
- Available to treat me or my family at **any location.**
- Information about **medical history, conditions, medicines, doctors**

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CalRHIO Mission

A collaborative statewide initiative to improve the safety, quality, and efficiency of health care through the use of information technology and the secure exchange of health information.

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CalRHIO Purpose

- Independent **umbrella** organization
- **Incrementally** build a statewide HIE
- Establish a **common approach** to governance, processes, technology
- Implement **pilots and demonstration** projects
- Ensure inclusion of **safety net providers and underserved populations**
- Build on **regional and national** efforts; ensure consistency with national technology platforms
- Identify and support **legislation and regulation** necessary

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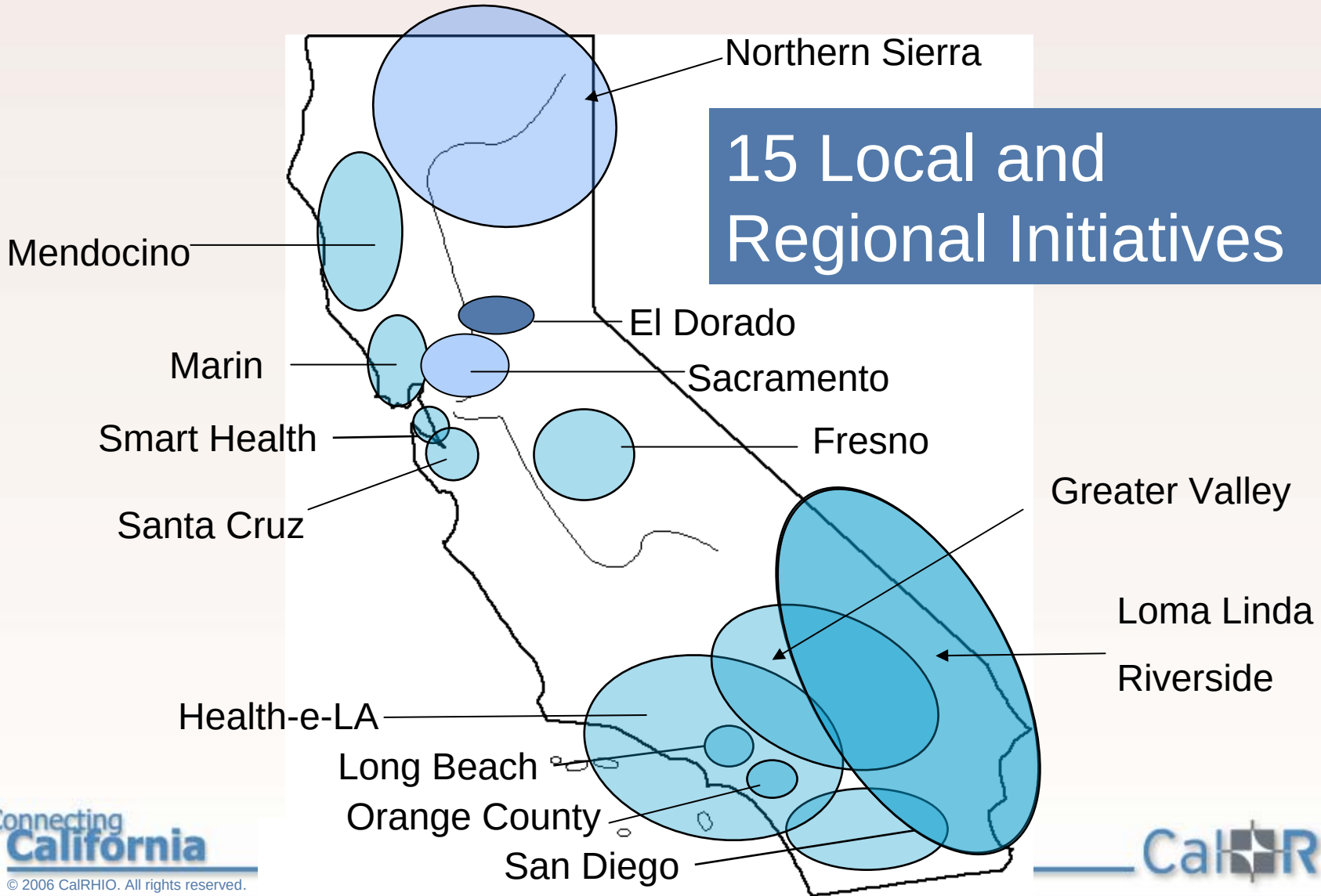
State Activity



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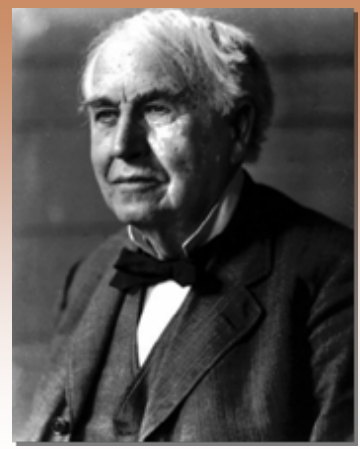
CalRHIO: HIE Utility

- Utility services facilitate interoperability at local, regional & state levels based on varying requirements for HIE
- Core services needed for any HIE initiative:
  - Patient identity management
  - Access control
  - Data Integration
- Leveraging shared utility services equates to savings for users

- The concept of sharing commonly needed services ***is not new:***



Regarding the Thomas Edison's Pearl Street electricity generating station, which opened September 4, 1882, in New York City

"It featured reliable central generation, efficient distribution, a successful end use (in 1882, the light bulb), and a competitive price."

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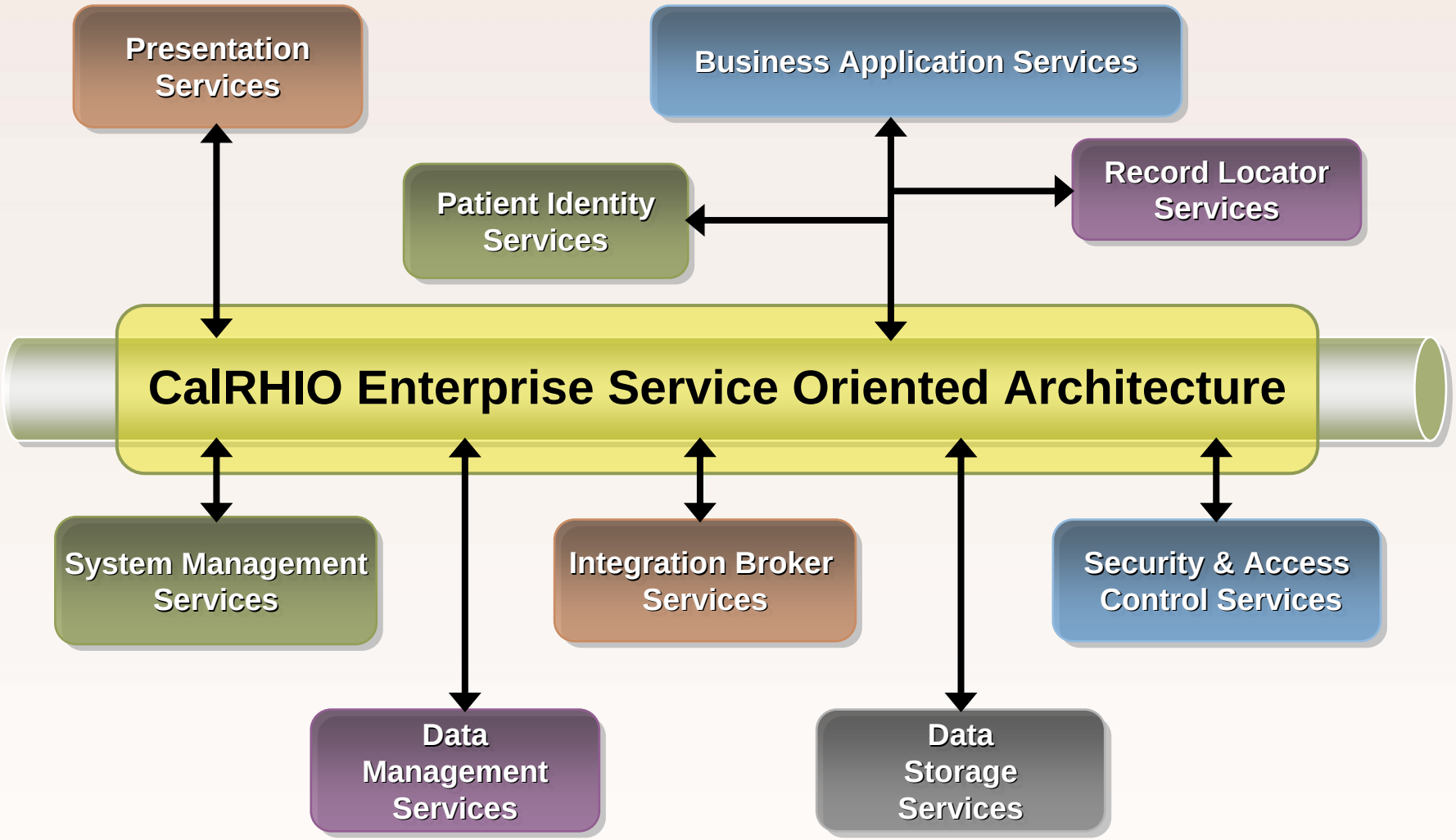
Shared Utility Service Framework



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Benefits: Shared HIE Utility Service

- **Flexible:** Suite of services from which regional efforts can select all, some, or none of the services
- **Adaptable:** Accommodate existing IT environments Flexible Support rapid deployment of HIE by avoiding duplication of both efforts and costs regarding technology issues
- **Affordable:** Leveraging a shared services environment reduces cost which in turn promotes HIE participation

Outcome: *Rapid Deployment of HIE across CA*

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Rigorous RFP Process

- Three high-level requirements:
  - Flexible & scalable technology platform
  - A sustainable business model for CalRHIO
  - A financing plan for deploying the HIE service to the point of sustainability
- 11 firms received the RFP; 8 responded
  - All firms presented their proposal to a selection committee
  - Final three firms presented their proposal to CalRHIO Board members

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CalRHIO Press Release

- "CalRHIO Selects Medicity and Perot Systems to Build Statewide Health Information Exchange for California

  CalRHIO has selected Medicity, Inc., teamed with Perot Systems (NYSE:PER), to build a statewide health information exchange utility service that will offer California health care providers secure electronic access to patient medical records, where and when they are needed."

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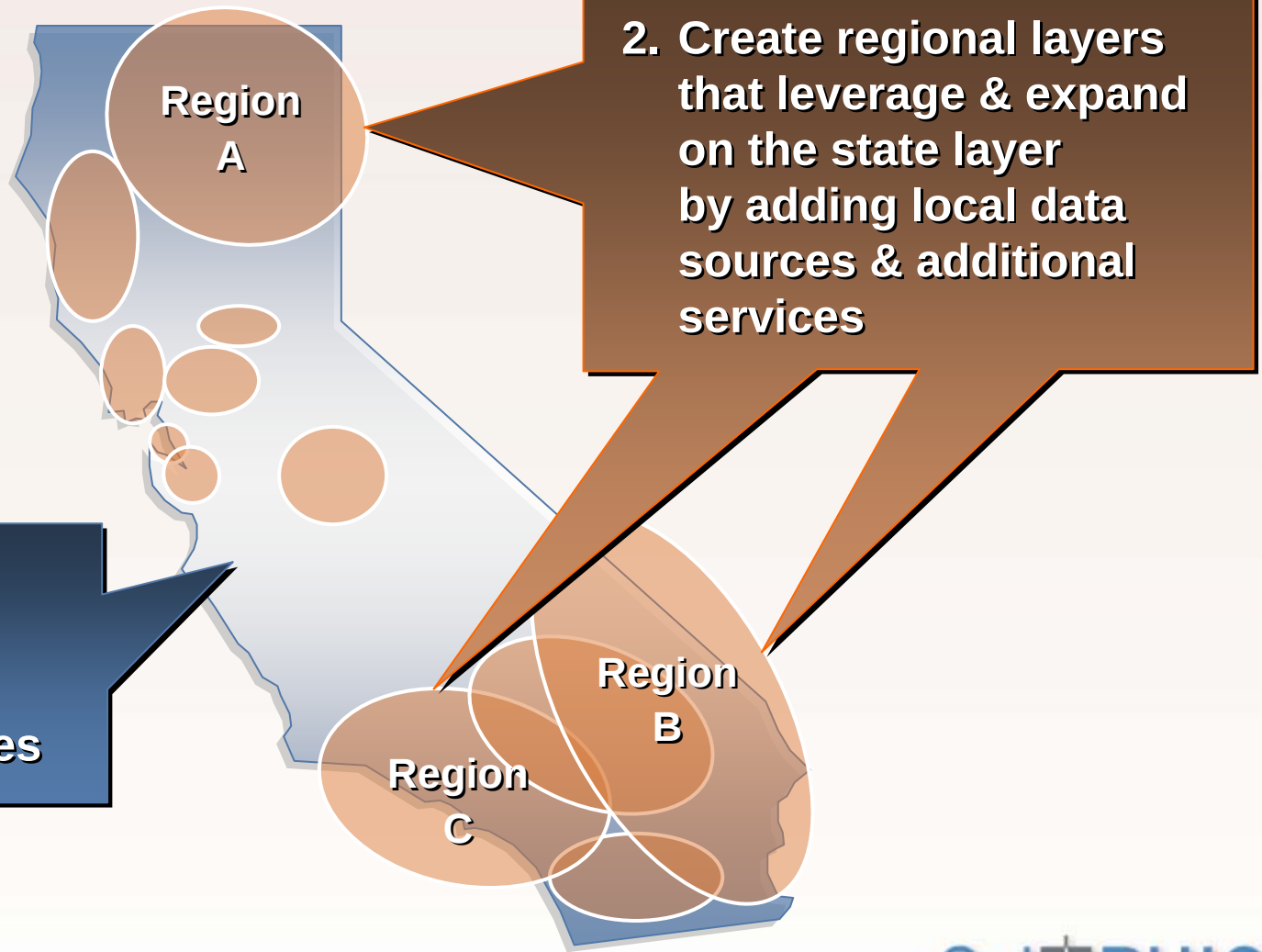
Approach: Create an HIE Utility Service *in Two Layers*



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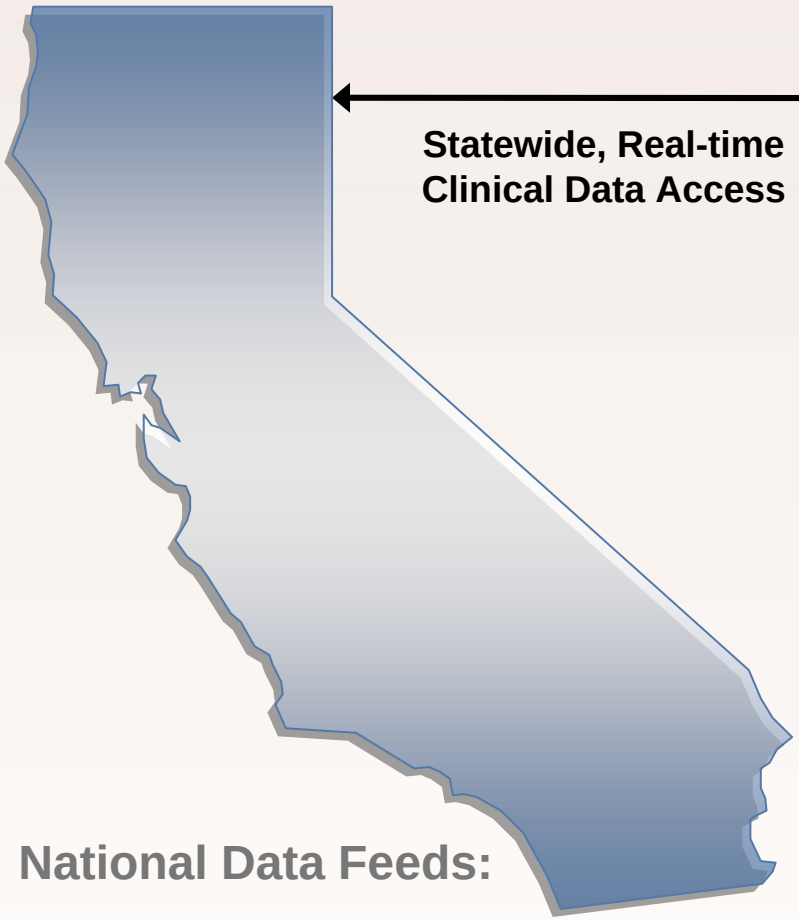
HIE Utility Service: State Layer

State Layer



Statewide, Real-time
Clinical Data Access

State of California Clinical Data Services

Services

- MPI
- RLS
- EMR Gateway
- Integration Hub

Data

- Patient
- Payor
- Provider

National Data Feeds:

- Claims History
- RxHub
- SureScripts
- National Labs

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State HIE Utility Service: Applications & Data

- **Data:** State and multi-regional clinical feeds (claims history from payers, lab/pathology reports from national labs, Meds from RxHub and SureScripts)
- **Applications:** MPI, RLS, e-Prescribing
- **Options (for regions that are ready):**
  - **Integration Hub:** Translates patient-centric health information between various EMR vendor applications
  - **EMR Gateway:** Clinical feeds from lab/path reports from national labs, Meds from RxHub and SureScripts to the physician's EMR application

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State HIE Utility Service: Functionality

- Through a secure web-based portal, any authorized/authenticated provider can query the network and immediately receive patient-centric claims history, medication history and laboratory results
- All queries/responses will be event logged
- Statewide availability

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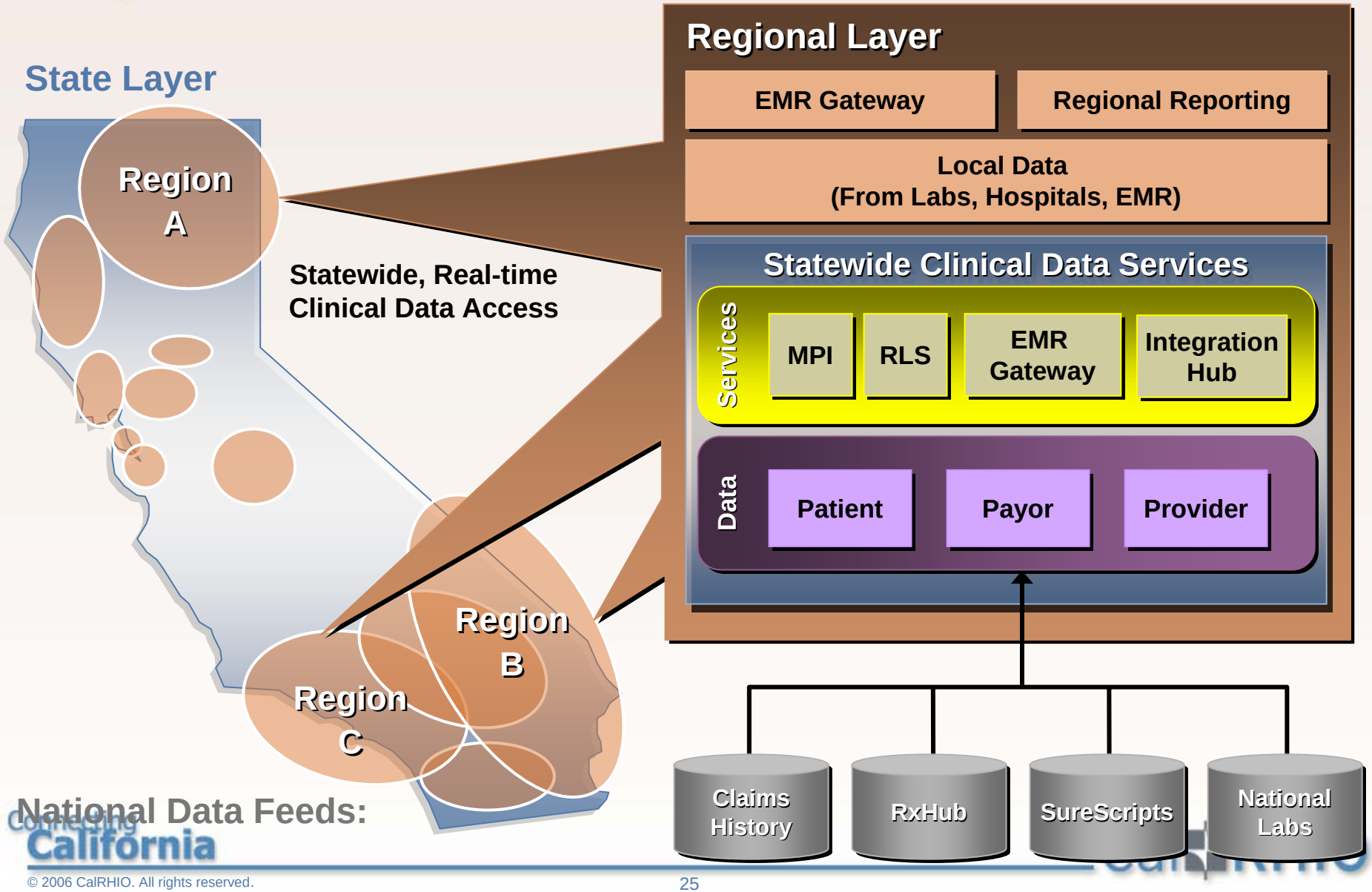
HIE Utility Service: Regional Layer



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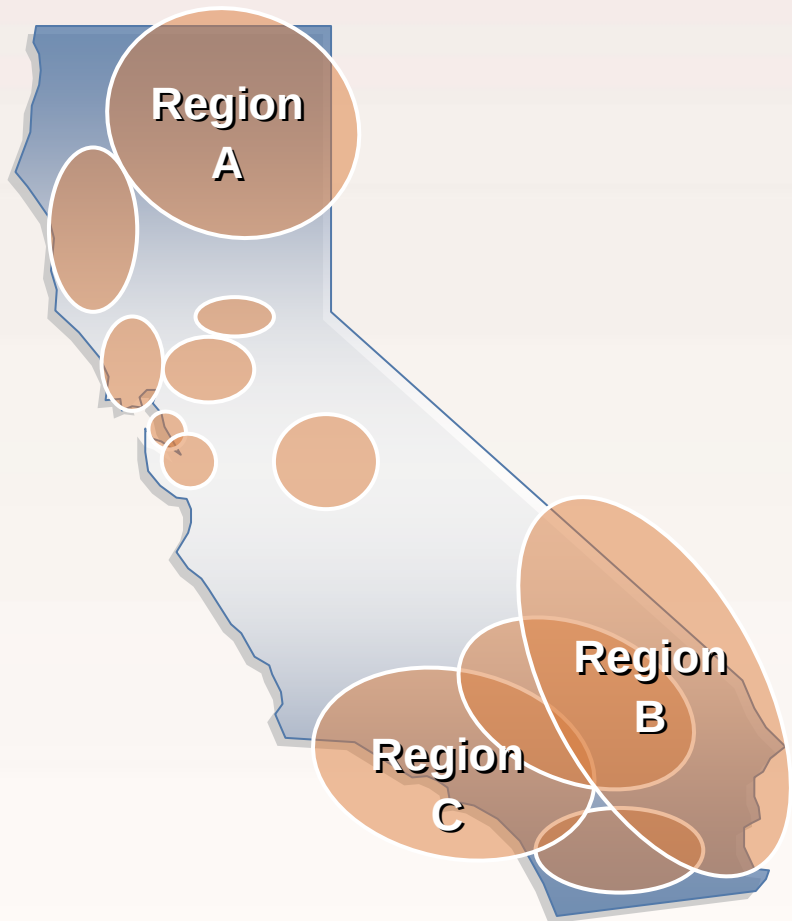
Regional HIE Utility Service: Applications & Data

- **Data:** Clinical data from local participating hospitals, labs and imaging facilities
- **Applications:** MPI;RLS; EHR & PHR; e-Script/medication history; Clinical messaging; Lab & imaging orders/results; Data Warehouse
- **Integration Hub:** Data exchange across disparate EMR applications
- **EMR Gateway:** Lab/path reports from national & local labs streamed into EMR applications



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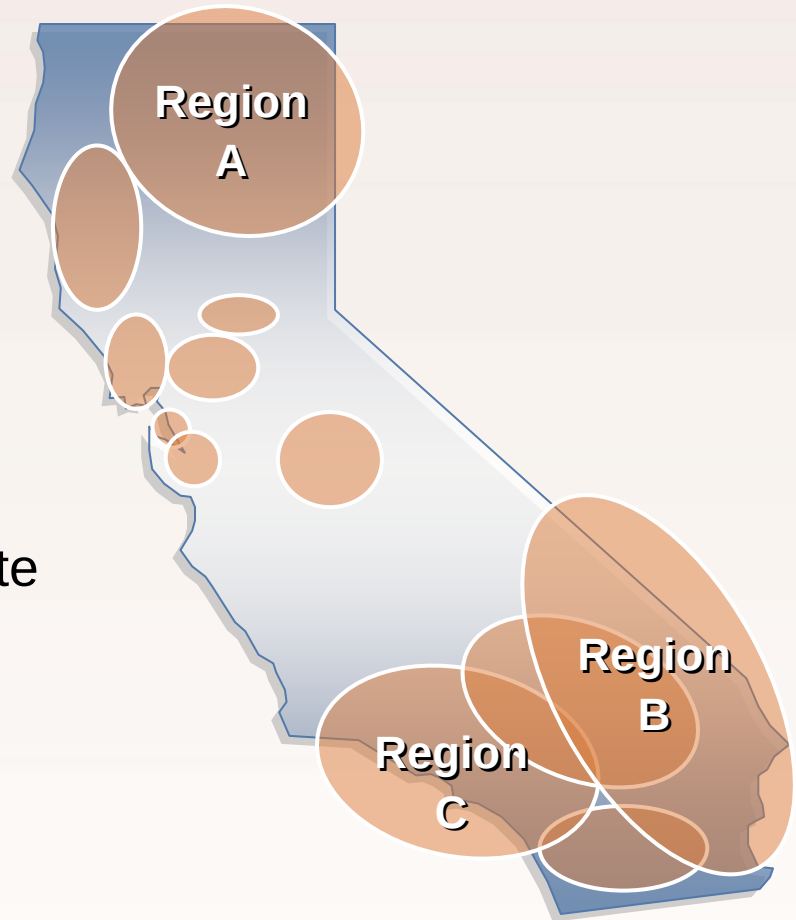
Regional HIE Utility Service: Functionality

- "Push" reporting
  from: hospitals, labs, transcription services, and any other connected source
- Any authenticated provider can query the network and receive both state and regional data
- The regional layer would leverage the technology services offered by the state layer
- Secure messaging:
  - Provider to provider
  - Provider to patient



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Principal End-Users of Data

Physician Office:

- 80-90% of transactions
- 50% of value
- More transactions of lesser value
- 95K physicians
- 70K targets
- 40% PCPs

Emergency Department:

- 10-20% of transactions
- 50% of value
- Fewer transactions but of greater value
- 307 California EDs
- 9M ED visits (OSHPD data for 2005)

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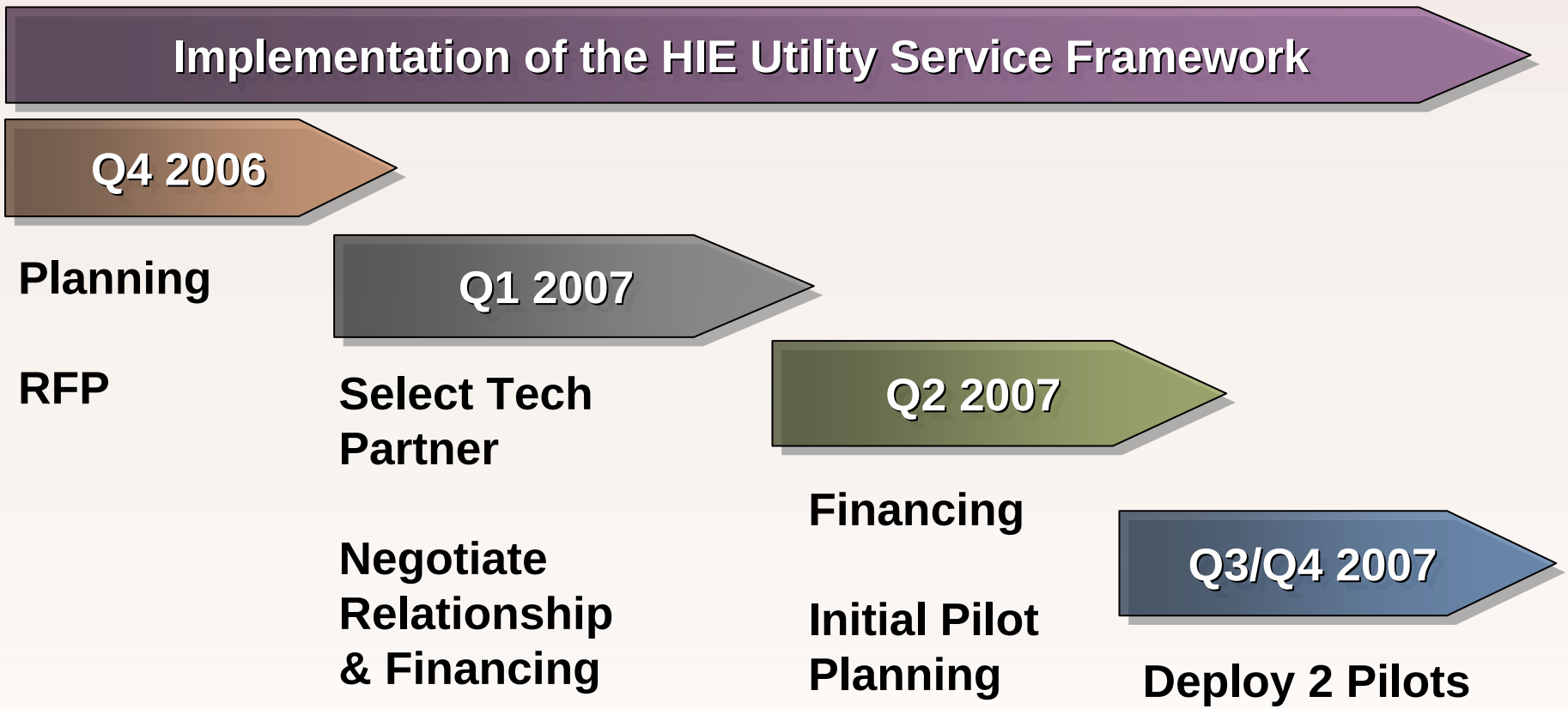
High-Level Roadmap



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The Goal

- A connected California population of providers, patients and consumers
- An information infrastructure that supports optimum care delivery methodologies, transparency, patient empowerment, and integrated health care records
- A utility-like infrastructure that moves health care information efficiently and at a cost that is a small fraction of the money saved for payers, patients, and providers alike
- Affordable utility services that facilitate regional health information exchanges and interconnections among them

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The End Points of the Critical Path

Starting Point:

- Santa Cruz – functioning
  - Results "push" to physicians
  - eRx
- 15 other local and regional HIE efforts identified in various stages of development
- 24 of 58 counties with some level of HIE activity

- 7 year effort
- Completion by 2014 Target (established by President Bush)

Completion:

- Major metropolitan areas exchanging comprehensive data
- Rural areas
  - Lab results from national laboratory companies
  - Medication history
- Collectively, 90% of state patients have health information that can be accessed by their providers and by Personal Health Records (approx. 35 million patients)
- Research
  - New therapies
  - Disease management

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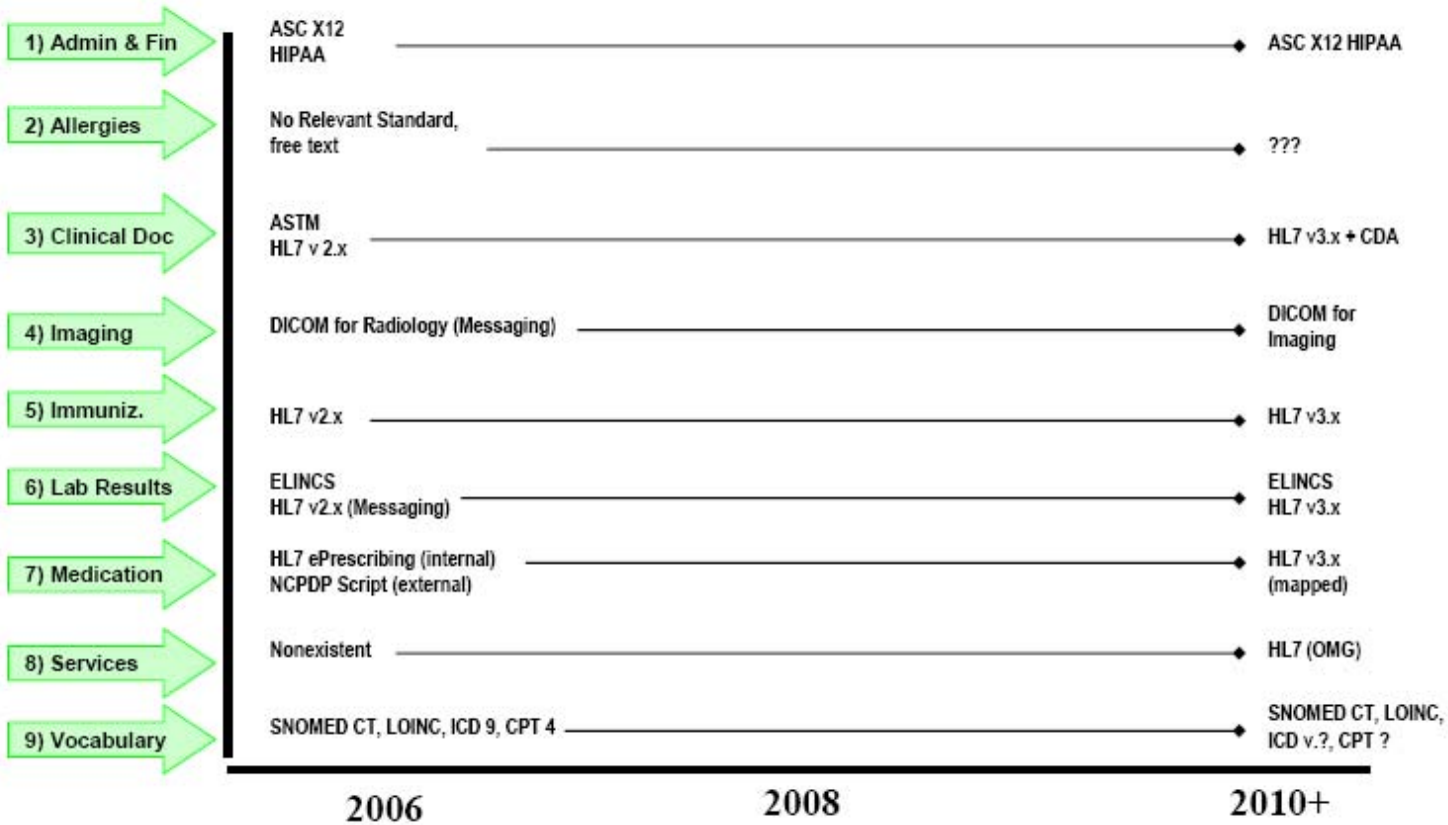
California Regional Health Information Organization

Data Standards Roadmap



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Data Standards updated November 2006

- **Updated to include:**
  - **Clinical Documentation**
    - **HL 7 (HealthLevel 7)**
      - **CDA (Clinical Document Architecture)**
      - **CCR/CCD (Continuity of Care Record/Document)**
      - **RIM (Reference Information Model)**
  - **Pharmacy**
    - **NCPDP**
  - **Clinical Trials**
    - **CDISC**

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CalRHIO Critical Clinical Data Set - 2005

- Medications (may serve as a surrogate problem list)
- Allergies
- Results
- Problem List (active)
- Past Problems (resolved problems, past surgeries, chronic conditions)
- Immunizations
- Preventive Care (schedules, guidelines based on age and gender)
- Chronic Care Management (protocols, guidelines based on diagnosis)

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The Chronic Disease IT Landscape

- Chronic Disease Management Systems (CDMS)
- Chronic Disease Registries (CDR)
- Electronic Medical Records (EMR)
- Electronic Health Records (EHR)
- Personal Health Records (PHR)
- Cardiovascular and Diabetes Electronic Management System (CVDEMS)
- Chronic Disease Electronic Management Systems (CDEMS)

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Possible CalRHIO Role in use of IT for Chronic Disease Management

- **State-wide Chronic Disease Registries**
  - **Model from IZ Registry experience**
  - **Data for clinical decision making at point of care**
- **CalRHIO and Chronic Disease Management Services Provider using Utility Model**
  - **Based on Minimal Clinical Data Set and Standards (CalRHIO Clinical Data Set & Data Standards Roadmap)**
- **Impact of connecting summary patient data (e.g. HL7 CCD/CCR) between EMRs across the state as may directly benefit the patient with chronic disease who may seek care from a multiplicity of providers over time.**

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CalRHIO California Regional Health Information Organization

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Connecting California

The California Regional Health Information Organization - CalRHIO - is a collaborative effort to incrementally build the structure and capabilities necessary for a secure statewide health information exchange system that enables California's health care providers and patients to access vital medical information at the time and place it is needed.

Learn more.

Regional Initiatives

All over California, organizations are mobilizing for secure health information exchange (HIE). CalRHIO's HIE Inventory tracks these efforts to better understand the state of connectivity. This information is a work in progress, please inform us of new projects and provide updates about organizations listed here – info@calrhio.org

Please Choose an Area

What's New

CalRHIO to Select Vendor to Build and Finance Statewide HIE Utility Service

CalRHIO is reviewing eight responses to a targeted request for proposals issued in mid-December to build and finance a statewide health information exchange (HIE) utility service. A selection will be announced by mid- March. Firms bidding on the RFP are Accenture, Covisint, CSC, IBM partnering with Axolotol, McKesson, Medicity, Sun Microsystems, and Wellogic.

more...

Announcements

Calendar of Events

CalRHIO sponsors educational programs on a wide range of topics. Agendas and proceedings are published on this site.

February 1, 2007 - Health Information Exchange: What it is, why we need it, where California stands

A legislative briefing at the State Capitol Building, Room 437, Sacramento, CA, from 1:30-3:30 pm. Speakers include Donald Holmquest, Pres. and CEO, CalRHIO; Jo Ellen

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Collaborating for the Secure Sharing of Health Information

For further information contact:

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